

What is claimed is:

1. An electronic circuit comprising:
 - 5 a central processing unit having a clock connection for receiving a first clock and a data connection;
 - 10 a peripheral unit having a clock connection and a data connection, said clock connection being connected to a signal output of a controllable oscillator or to an external clock input, so that the peripheral unit receives a second clock which is relatively prime with respect to the first clock and whose clock frequency has no common divisor with the first clock;
 - 15 synchronization means comprising a first and a second data connection, said first data connection being connected to said data connection of said peripheral unit; and
 - 20 a data bus being connected to said data connection of said central processing unit and to said second data connection of said synchronization means.
2. The electronic circuit according to claim 1, wherein
 - 25 said central processing unit, said peripheral unit, said synchronization means and said data bus are arranged on a common chip card having two external connection devices being arranged to be connectable to two corresponding contact connections of a terminal, a first of said contact connections being connected to said signal output of said controllable oscillator, a clock signal for said central processing unit being applied at the second of said contact connections, a first of said external connection devices being connected to said clock connection of said peripheral unit and the second of said external connection devices being connected to said clock connection of said central processing unit.
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3. The electronic circuit according to claim 1, wherein
said central processing unit, said peripheral unit, said
synchronization means, said data bus and said oscillator
are arranged on a common chip card, and wherein said clock
5 connection of said peripheral unit is connected to said
signal output of said controllable oscillator.

4. The electronic circuit according to claims 1, wherein
said central processing unit, said peripheral unit, said
10 data bus, said controllable oscillator and said
synchronization means are integrated into an integrated
circuit.

5. The electronic circuit according to claim 1, further
15 comprising:

controlling means having a control output, said control
output being connected to said control input of said
20 controllable oscillator, and said controlling means being
arranged to control said controllable oscillator depending
on a control parameter.

6. The electronic circuit according to claim 5, wherein
said controlling means is arranged to control said
25 controllable oscillator as a control parameter depending on
a task performed by said peripheral unit, an application of
said electronic circuit or energy available for said
electronic circuit.

30 7. The electronic circuit according to claim 1, wherein
said controllable oscillator is controllable to provide an
output signal at a signal output, the frequency of which is
faster than a frequency of a clock signal which can be fed
to said clock connection of said central processing unit.

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8. The electronic circuit according to claim 1, wherein
said controllable oscillator is controllable to provide an
output signal, the frequency of which has no common divisor

with a frequency of a clock signal which can be fed to said clock connection of said central processing unit.

9. The electronic circuit according to claim 1, being
5 embodied as a cryptography controller.

10. The electronic circuit according to claim 1, wherein
said peripheral unit is a coprocessor for one of a group of
10 cryptographic algorithms including an asymmetrical
encrypting or a symmetrical encrypting, a transceiver, a
filter, a hash module, a random generator or a sensor
element.

11. The electronic circuit according to claim 1,
15 comprising a plurality of peripheral units, each peripheral
unit being connectable to a separate controllable
oscillator, or wherein clock signals with frequencies are
fed to various of said plurality of peripheral units, these
frequencies being derived from said controllable
20 oscillator.

12. The electronic circuit according to claim 1, wherein a
separate task is associated to each peripheral unit, the
tasks being selected from a group including computing a
25 modular multiplication, a modular addition, a hash value
computation, an RSA encrypting, an encrypting based on
elliptical curves, an encrypting according to the DES
standard, a data exchange with a terminal, forming random
numbers or checking safety-critical parameters.

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13. A method of controlling an electronic circuit having a
central processing unit (CPU) and a peripheral unit being
connected to each other via a data bus, comprising:

35 clocking said central processing unit by a first clock;

clocking said peripheral unit by a second clock which is
different from the first clock, so that the clock frequency

of the second clock is relatively prime with respect to the clock frequency of the first clock; and

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- 5 synchronizing data transmitted between said central processing unit and said peripheral unit via said data bus.